

ABSTRACT

(A) An anionic surfactant, (B) a silicate monomer and (C) a basic silane are mixed in water or a mixed solvent of a water-miscible organic solvent and water to obtain a mesoporous silica complex having mesopores with a uniform size, the anionic surfactant Component (A) is removed by washing the resultant mesoporous silica complex with an acidic aqueous solution, a water-miscible organic solvent or an aqueous solution thereof to obtain a mesoporous silica outer shell utilizing the structure of the mesoporous silica complex as a template, and the mesoporous silica complex or the mesoporous silica outer shell is calcined to obtain a mesoporous silica. The mesoporous silica can be synthesized in this manner utilizing the anionic surfactant micelle with a remarkably low affinity to the silicate monomer.